Tapestry algorithm

COP5615 – Distributed Operating Systems

Submitted By

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Objective:

The goal of this project is to implement the Tapestry Algorithm described in the paper *https://pdos.csail.mit.edu/~strib/docs/tapestry/tapestry_jsac03.pdf*.

Failure Strategy:

For the bonus part, we have taken the number of nodes to be killed as an input from the user. Once the nodes have been created and the last nodes have been joined to the network, we start killing the nodes and removing them from the network. Once we have a new list of node pids, we send an update call to all the existing nodes in the network so that they update their routing tables accordingly and remove the killed nodes.

To run the project,

mix run proj3.exs <numNodes> <numRequests> <numNodesToBeKilled>

Output: Max number of hops taken by all the requests.

Observation:

Number of hops taken by the nodes have increased as there are a smaller number of nodes which can be reached now. This might vary because nodes are picked up randomly and when we have fewer requests to be made per node and while selecting a node, if the node has selected the ones with largest prefix, then the number of hops taken might get decreased. So, there's no definite way in which we can tell that number of hops are in a range as the nodes are always picked up randomly.